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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,430	08/17/2001	Bing Chao	EKM-81895	3438

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EXAMINER	
DUONG, THANH P	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/932,430	CHAO ET AL.
	Examiner	Art Unit
	Tom P. Duong	1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/14/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicants' remarks and amendments filed on December 14, 2005 have been carefully considered. Claims 39, 54, and 69 have been amended. Claims 39-69 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 39-48, 52-63, and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hocknell et al. (6,440,011) in view of Peterson (6,162,133). Regarding claim 39, Hocknell discloses a method of manufacturing a golf club head, the method comprising: a body 44 having a height ranging from 45-60mm (Col. 6, lines 30-35) having a crown 62 (Col. 5, lines 15-22) having thickness ranging from 0.025-0.060 inch; rear section 70 (best understood to be the skirt); a sole 64 having thickness ranging from 0.025-0.060 inch; a face portion, the face portion projecting inward from the crown, skirt, and sole and defining a front opening (Fig. 3 and Col. 8, lines 45-52); forming a striking plate (72) comprising a titanium alloy (Col. 6, lines 40-45) of alpha-beta type having thickness 2.0-3.5 mm (Col. 5, lines 45-67) and height ranging from 35 to 50 mm and width/height ratio 1.0-1.7 (Col. 6, lines 1-18), and attaching the striking

plate to the front opening of the body; wherein the crown has a crown transition region extending from a junction of the face portion and the crown rearwards about 20 mm (Col. 6, lines 21-31), and wherein the thickness of the crown within at least the crown transition region is less than 0.8 mm (Col. 5, lines 14-17); and periphery thickness of 0.069-0.061 inch. With respect to forming a unitary body construction, it would have been obvious in view of Hocknell to one having ordinary skill in the art to fabricate the club head body comprising a plurality of club parts or a unitary body since it has been held that a one-piece construction versus several parts secured together as a single unit is an obvious matter of design choice. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Alternatively, Peterson teaches a unitary, one-piece body 32, provides the advantage for its uniformed construction such as manufacturing repeatability with respect to loft, lie and face angle, weight distribution, and reduction in manufacturing cost (Col. 4, lines 23-48). Thus, it would have been obvious in view of Peterson to one having ordinary skill in the art to provide a golf club head of Hocknell with a unitary head construction as taught by Peterson in order to gain the above advantages. With respect to claim 47, the striking plate of Hocknell is made of the same material as the claimed invention; thus, it inherently has the same material properties. See *In re Best*, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977).

2. Claims 49-51 and 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applied references (Hocknell '011 in view of Peterson '133) in view of Japanese Publication 2001-029518 (hereinafter JP '518). The applied

references disclose the claimed invention but fail to disclose the cold forming and heat treatment (Col. 5, lines 1-7) of the striking plate. JP '518 teaches 15% or more of the cold working process in club head and solution heat treatment (Section 0006 and Section 0012) and such metal forming process provide the benefits of increased stress resistance and hardness (Page 3, Section 0017-0018). Thus, it would have been obvious in view of JP '518 to one having ordinary skill in the art to fabricate the club head of the applied references with the cold forming process and heat treatment as taught by JP '518 to gain the above benefits.

3. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Hocknell '011 in view of Peterson '133 and Japanese Publication 2001-029518 (hereinafter JP '518). Hocknell '011 discloses a method of manufacturing a golf club head, the method comprising: forming a body 44 having a crown 62, a skirt (best understood to be rear section 70), a sole (64), and a face portion, the face portion projecting inward from the crown, skirt, and sole and defining a front opening (Fig. 3 and Col. 8, lines 45-52); forming body from a material comprising titanium (Col. 6, lines 40-45); the striking plate having a maximum thickness of less than or equal to 2.2 mm (Col. 5, lines 45-67) and a periphery thickness at least 0.5 mm (0.069-0.061 inch) less than a thickness measured at a striking plate geometric center; welding the striking plate to the front opening of the body (Col. 7, lines 47-64); wherein the crown has a crown transition region extending from a junction of the face portion and the crown rearwards about 20nm (Col. 6, lines 21-31), the thickness of the crown within at least the crown transition

region is less than 0.8 mm (Col. 5, lines 14-17); and wherein the sole has a sole transition region extending from a junction of the face portion and the sole rearward about 20 nm, the thickness of the sole within at least the sole transition region less than 1.0 mm (Col. 5, lines 23-44). Hocknell '011 fails to disclose cold forming a striking plate, JP '518 teaches 15% or more of the cold working process in club head and such metal forming process increased stress resistance and hardness (Page 3, Section 0017-0018). Thus, it would have been obvious in view of JP '518 to one having ordinary skill in the art to fabricate the club head of Hocknell '011 with the cold forming process as taught by JP '518 in order to provide a golf club with improved hardness and stress resistance. With respect to casting unitary body, it would have been obvious in view of Hocknell to one having ordinary skill in the art to fabricate the club head body comprising a plurality of club parts or a unitary body since it has been held that a one-piece construction versus several parts secured together as a single unit is an obvious matter of design choice. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Alternatively, Peterson teaches casting a unitary, one-piece body 32, provides the advantage for its uniformed construction such as manufacturing repeatability with respect to loft, lie and face angle, weight distribution, and reduction in manufacturing cost (Col. 4, lines 23-60). Thus, it would have been obvious in view of Peterson to one having ordinary skill in the art to provide a golf club head of Hocknell with a unitary body construction as taught by Peterson in order to gain the above advantages. With respect to the material properties of hardness, tensile strength, and percent elongation, and density, the striking plate of Hocknell is made of the same

material as the claimed invention; thus, it inherently has the same material properties. See *In re Best*, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977).

Response to Arguments

Applicant's arguments with respect to claims 39-69 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong
February 22, 2006

Glenn Caldarola
Primary Patent Examiner
Art Unit 1700